

CLEAN COPY OF AMENDED SPECIFICATION AND CLAIMS

Paragraph on page 1, lines 6 to 12 as follows:

1. Cross-Reference

U.S. Patent Application No. 09/887, 871 entitled Optical Detection in Bio-Separation Device Using Axial Radiation Output, concurrently filed on June 22, 2001 (Attorney Docket No.: 1031/205), and U.S. Patent Application No. 09/887,872 entitled Optical Detection in Bio-Separation Device Using a Widened Detection Zone, concurrently filed on June 22, 2001 (Attorney Docket No.: 1031/206), which are commonly assigned to BioCal Technology, Inc., the assignee of the present invention, and which are fully incorporated by reference herein.

b1

Paragraph on page 12, line 12 to page 13, line 14 as follows:

One end of the capillary column 22 is submerged in a reservoir 506 of running buffer 508. The other end of the capillary column 22 is coupled to a widened section 505 that defines a detection zone in accordance with the present invention. (U.S. Patent Application No. 09/887,872, entitled Optical Detection in Bio-Separation Device Using a Widened Detection Zone, concurrently filed on June 22, 2001 (Attorney Docket No.: 1031/206), which is commonly assigned to BioCal Technology, Inc., the assignee of the present invention, and which has been fully incorporated by reference herein, is more specifically directed to the widened detection zone concept.) In the particular illustrated embodiment in FIG. 1, the detection configuration corresponds to the embodiment illustrated in FIG. 2. It is understood that the detection configurations shown in the other embodiments can be equally implemented in a system similar to the CE system 500. The widened section 505 is schematically shown to be a separate collar 10 in FIG. 1. In one embodiment of the present invention, the widened detection zone is a

b2

micro-bore collar having a micro-channel that coaxially surrounds the exit of a capillary column 22. (It is within the scope of the present invention to use a unitary capillary column 550 having a widened section 552, as illustrated in FIG. 13, or other configurations to define a widened detection region without departing from the scope and spirit of the present invention.) The end of the collar 510 that is not coupled to the capillary column 22 is submerged into a buffer reservoir 512. A radiation detector 514 is positioned outside a transparent section of the walls of the collar 10 (i.e., in an off-column detection configuration). (In an on-column detection configuration in the embodiments explained later, the collar may have opaque walls to prevent loss of emitted radiation from the detection zone.) An excitation fiber 516 extends from a radiation source (e.g., LED or laser) into the collar 10, to direct radiation at the detection zone. Depending on the collimation optics, the end of the excitation fiber 516 may be positioned at or proximate to the detection zone. (Alternatively, as illustrated in FIG. 12, the excitation radiation may be directed at the detection zone using excitation fibers outside of the walls of the detection zone.) Electrodes 520 and 521 are coupled to the buffer reservoirs.

Paragraph on page 22, lines 8 to 12 as follows:

U.S. Patent Application No. 09/887,871 (entitled Optical Detection in Bio-Separation Device Using Axial Radiation Input, concurrently filed on June 22, 2001 (Attorney Docket No.: 1031/204), which is commonly assigned to BioCal Technology, Inc., the assignee of the present invention, and which has been fully incorporated by reference herein) is more specifically directed to the novel axial excitation radiation concept.